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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,394	08/08/2001	Koki Hirasawa	NU-01011	2347

466 7590 06/19/2002

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ARLINGTON, VA 22202

EXAMINER
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ERDEM, FAZLI

ART UNIT	PAPER NUMBER
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2826

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/923,394

Applicant(s)

HIRASAWA ET AL.

Examiner

Fazli Erdem

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 August 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 11-16, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 8-10, 17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 8, 9, 10 and 17 are objected to as being dependent upon a <sup>base claim, but</sup> would be allowable if rewritten in independent form including all of the limitations <sup>of the base</sup> claim and any intervening claims.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1-7 and 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda (US 2001/0045531 A1) in view of Kelleher et al. (5,734,197) further in view of Go (6,377,742).

Regarding Claims 1, 5, 11 and 14, Figs. 6, 9, 10, 11 and 13 of Yasuda shows all the claimed subject matter except it fails to a deformable portion in the tie bar. However, Fig. 1 of Kelleher et al. shows a deformable leadframe with deformable leads where the leads are made of deformable bimetallic composition. Furthermore in Fig. 9 Go shows a lead frame to be used in an optical module with outside frame including positioning holes.

Regarding Claim 2 and 3, leads in Kelleher et al. are configured to be deformed and absorb stress.

Regarding Claim 4, Yasuda shows a photocoupling device.

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Regarding Claim 6, Fig. 10 of Yasuda shows detail 104 as being bent.

Regarding Claim 7, in Fig. 10 of Yasuda, light semiconductor elements 104 and 102 are sealed with resin.

Regarding Claim 12 and 13 in Fig. 10 of Yasuda, leads 103 and 113, are configured to extend from the top and the bottom of the sealing resin and light semiconductor devices 101 and 102 are configured to face each other.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include a deformable bars in Yasuda along with an outer frame with positioning holes as taught by Kelleher et al. and Go respectively, because such structure would provide a better outer lead protection with an ease of manufacture.

3. Claims 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda (5,734,197) in view of Mizuuchi (6,194,238) further in view of Kelleher et al.

Regarding Claim 15, In combination Yasuda et al. and Mizuuchi show a method of manufacturing a photocoupling device including the lead forming and sealing steps. They fail to show a deformable bar to be used in the leadframe. However, Kelleher et al. show a deformable leadframe.

Regarding Claim 16, in Fig. 4 of Mizuuchi shows light stopping molding resin.

Regarding Claim 18, in Fig. 4 of Mizuuchi there's a translucent resin 5 and a molding resin 6.

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It would have been obvious to one of having ordinary skill in the art at the time time invention was made to have deformable bars in Yasuda and Mizuuchi combination as taught by Kelleher et al. because such structure would result in protection for the outer leads.

4. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuda (5,734,197) in view of Mizuuchi (6,194,238) further in view of Kelleher et al. further in view of Go (6,377,742).

In combination Yasuda, Mizuuchi and Kelleher show a leadframe to be used with a photocoupling device and the related method of making the leadframe. They fail to show an outer frame with positioning holes. However, Go shows a leadframe to be used with an optical module including positioning holes as shown in Fig. 9.

It would have been obvious to one of having ordinary skill in the art at the time the invention was made to include positioning holes on outer frame in Yasuda, Mizuuchi and Kelleher et al. combination as taught by Go, because that would lead to faster manufacture.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fazli Erdem whose telephone number is (703) 305-3868. The examiner can normally be reached on M - F 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (703) 308-6601. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

FE

June 14, 2002

~~NATHAN J. FLYNN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800~~